

Amendment to the Claims:

1. (Currently Amended) ~~[[Two]]~~ A two-shaft vacuum pump comprising:
first and second rotor ~~[[two]]~~ shafts, ~~[[((12,14),)]]~~ wherein one of the
shafts (14) is driven by
5 an electric drive motor ~~[[((20))]]~~ ~~and comprises a motor rotor~~ ~~[[((26))]]~~
which drives one of the motor shafts, the drive motor ~~[[((20))]]~~ being a synchronous
motor~~[[,]]~~ ~~characterized in that the~~ with a motor rotor ~~[[((26))]]~~ that is
permanently excited, and
a synchronous motor power-limiting device ~~[[((58))]]~~ is provided which
10 limits ~~[[the]]~~ motor power (P_M) to a fixed maximum motor power (P_{Mmax}) in a limiting
range above a fixed rated motor speed (n_N).
2. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump
according to claim 1, ~~characterized in that~~ wherein the power-limiting means ~~[[((58))]]~~
adjusts, in the limiting range, ~~[[the]]~~ a phase angle between ~~[[the]]~~ a magnetic field of
the rotor and ~~[[the]]~~ an electrical stator field to an angle other than 90°.
3. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump
according to claim 1, ~~characterized in that~~ wherein the power-limiting means device
~~[[((58))]]~~ reduces the stator current in the limiting range.
4. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump
according to claim 1 ~~[[or 2]]~~, ~~characterized in that~~ wherein the power-limiting device
~~[[((58))]]~~ adjusts, in the limiting range, the phase angle between the magnetic field of
the rotor and at least one of the electrical stator field and~~[[/or]]~~ the stator current as a
function of the motor speed.
5. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump
according to ~~one of claims~~ claim 1~~[[-4]]~~, ~~characterized in that~~ wherein the driven rotor
shaft ~~[[((14))]]~~ driven by the drive motor is of ~~overhung~~ cantilevered configuration and
is supported without a supporting bearing on ~~[[the]]~~ a motor-side end.

6. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump according to ~~one of claims claim~~ 1~~[[5]]~~, ~~characterized in that~~ wherein the motor rotor ~~[[26]]~~ comprises a plurality of permanent magnets ~~[[38]]~~ arranged on ~~[[the]]~~ an outside surface of the motor rotor body ~~[[34]]~~.

7. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump according to claim 6, ~~characterized in that~~ wherein the motor rotor ~~[[26]]~~ comprises a rotor enclosure ~~[[40]]~~ of a nonmagnetic material which externally encloses the motor rotor body ~~[[34]]~~ and the plurality of permanent magnets ~~[[38]]~~.

8. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump according to ~~one of claims claim~~ 1~~[[7]]~~, ~~characterized in that~~ wherein on ~~[[the]]~~ a stator side, a can ~~[[42]]~~ of a nonmagnetic material is provided which gas-tightly seals the motor rotor ~~[[26]]~~ with respect to the motor stator ~~[[28]]~~.

9. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump according to claim 8, ~~characterized in that~~ wherein a pump cover ~~[[48]]~~ holding the can ~~[[42]]~~ and a stator casing ~~[[50]]~~ surrounding the stator casing ~~[[50]]~~ are integrally formed.

10. (Currently Amended) ~~[[Two]]~~ The two-shaft vacuum pump according to ~~one of claims claim~~ 7~~[[9]]~~, ~~characterized in that~~ wherein at least one of the plurality of permanent magnets ~~[[38]]~~ of the rotor ~~are made of~~ include rare earth~~[[s]]~~ elements.

11. (Previously Presented) A two-shaft vacuum pump comprising:

a pair of motor shafts;

a synchronous, permanently excited drive motor directly connected to
5 one of the motor shafts; and

a phase angle adjusting means for adjusting a phase angle between a motor rotor magnetic field and an least one of a motor stator magnetic field and a stator current.